

Development Economics

Assignment

Michele Di Maio | Valerio Leone Sciabolazza

You have to write your own piece of research. In order to do that you have to follow this guideline.

Submission deadline

You are expected to send your paper and the r script producing the results presented in the paper one week before the date of the exam you have chosen.

IMPORTANT: You will present to the class your preliminary work on the 16th or the 17th of May, to take suggestions from your colleagues and professors. Book a spot by writing to valerio.leonesciabolazza@uniroma1.it

GUIDELINES

1. Choose a research question

Choose one of these research questions:

the link between conflicts and climate change

the link between conflicts and economic development

the link between climate change and economic development

Your research will be then conducted with data provided by us.

2. Originality

A literature survey is NOT allowed. You have to present a piece of original research.

3. Structure

First, clearly state the research question (the specific one, not the general one, e.g., *the link between conflicts and climate change*).¹

You can find inspiration from these papers (but you are encouraged to search for others which may help you):² https://doi.org/10.1162/rest_a_00730; <https://doi.org/10.1257/jep.30.4.171>; <https://doi.org/10.1093/qje/qju004>; <https://doi.org/10.1257/aer.20160999>; <https://doi.org/10.1093/qje/qjt029>; <https://doi.org/10.3982/ECTA13117>.

Second, explain why this question is important and how you are going to conduct the research. Here you may need to cite the existing literature, but never write a lengthy literature review. The purpose of citing the literature is to show why your research is original and contributes to the literature in an important way.

¹ For tips to find and write a good research question, see the following pieces of writing by leading economists:

Steve Pischke: http://econ.lse.ac.uk/staff/spischke/phds/How_to_start.pdf

Don Davis: <http://www.columbia.edu/~drd28/Thesis%20Research.pdf>

Ross Levine: http://faculty.haas.berkeley.edu/ross_levine/papers/guidelines.pdf

Avinash Dixit: <http://www.princeton.edu/~dixitak/home/dixitwrk.pdf> (see pages 4-6 in particular)

Hal Varian: <http://people.ischool.berkeley.edu/~hal/Papers/how.pdf> (see Sections 1 and 2 in particular)

David Levine: http://faculty.haas.berkeley.edu/LEVINE/cheap_advice.html#dissertation

² Papers can be freely accessed using the wifi connection of Sapienza.

Finally, describe the empirical research method to answer this research question. Here is an example of how to do this:

- Describe the data you will use (the sources, the sample period, the number of observations, the list of variables to be used, etc.).
- Write summary statistics tables (or figures). Here you *may* also want to create a table in which you compare the means between treated and control observations with t-statistics reported. Remember: summary statistics are used to provide evidence motivating your research questions. They are not meant to just provide a simple description of the data.
- Write down the equation(s) to be estimated. Explain what estimation method you use (OLS, IV, SUR, Probit etc.), including how standard errors will be computed.
- Write down at least one regression table.³ When writing it/them down, remember to indicate what empirical specification each column estimates. What is the dependent variable? How is the sample restricted? Which regressors are included? What F-tests will be reported? And so forth. Add notes to the table(s), to explain how standard errors are computed, what F-statistics refers to, etc.
- Write paragraphs to explain the purpose of each column in these regression tables and discuss the interpretation of the estimated effects. Important: any result is fine (e.g., it is ok if you don't find any effect of, e.g., climate change on conflicts), but meaningful results are better evaluated.
- Write implications of your finding or the conclusions.

Bonus (not mandatory):

- Before introducing the empirical analysis, discuss a theory that guides your empirical analysis using the lessons presented by Prof. Di Maio: e.g., explain possible mechanisms for why your treatment variable affects the outcomes you are going to look at; explain how conflict affects the economic development of one country, etc.
- Before discussing the regression table(s), describe your identification strategy and the identifying assumption, that is, the assumption that ensures the interpretation of estimated coefficients as causal impacts.

4. Data

You will conduct your research in one or both countries (you decide): Rwanda and Burundi.

The units of observation to be used are (you decide), either:

- Regular cells from a regular grid (contained in the shapefile *shp_rwa_bdi*)
- Irregular polygons indicating the ancestral homeland of tribes (contained in the shapefile *homeland*).

If you choose the shapefile grid, you will have the following data that you can match with each cell (using the cell id):

- Nightlight intensity for each month from 1993 to 1998: *db_nl_grid_rwa_bdi*
- Temperature and precipitation data for each month from 1993 to 1998: *db_climate_grid_rwa_bdi*

³ Example: i) table of baseline regressions where you show the effect of changing weather conditions on conflicts; and ii) table of heterogeneity analysis to show, e.g., how different weather conditions impact on conflicts.

If you choose the shapefile homeland, you will have the following data that you can match with each polygon (using the polygon id):

- Nightlight intensity for each month from 1993 to 1998: *db_nl_home_rwa_bdi*
- Temperature and precipitation data for each month from 1993 to 1998: *db_climate_home_rwa*

After choosing the shapefile, if you decide to work on a research question involving conflicts, you will have to count the number of conflicts in each cell/polygon using conflict data, contained in the file *conflict* (have a look to the material covered during lab 4 to remember how to do this using a spatial join). This file contains all conflicts registered in each month from 1993 to 1998 in Rwanda and Burundi. For each conflict event, it is indicated the latitude and the longitude.

Note: you are not limited to the use of the data provided here. You can add as many variables as you want to this data (not mandatory).

Note: in case you need it, the material also contains the shapefile of Rwanda and Burundi. It is stored under the name *shp_rwa_bdi*

Note: you can use observations at any aggregation level (month, trimester, semester, year, etc.), and you can focus on a single period, or on many periods. You decide.

Additional information

You are free to work on the R script with one colleague (only one!). But you are required to write the paper by yourself. Remember: your contribution must be recognizable; plagiarism will not be accepted.